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ABSTRACT

This booklet is intended to help persons interested in developing and implementing a competency-based training (CBT) program. It begins with a definition of CBT and outlines the steps involved in developing and implementing a CBT program (with emphasis on available materials and existing programs in Australia). The first section is a series of questions and answers designed to help trainers determine whether they are ready to implement CBT and whether a CBT program will work for them. Section 2 discusses the following steps in the program development process: preparing others for CBT, designing a CBT program, getting materials and resources, organizing the facilities, and developing management procedures. The third section covers assisting learning, assessing learning, and monitoring a CBT program. Next, the concept of CBT as an evolving phenomenon is discussed briefly. The final section is an annotated bibliography of 14 recommended publications (13 published in Australia) concerning competency-based vocational education programs and their implementation. (MN)

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IMPLEMENTING CBT

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GETTING TO GRIPS WITH IMPLEMENTING CBT

Roger Harris

This booklet was funded by the Commonwealth Department of Employment, Education and Training.

ABOUT THE SERIES

The "Getting to Grips With . . ." series has been written for the general reader who wants to understand important trends in vocational education and training. The first two booklets in the series have been generously funded by the Commonwealth Department of Employment, Education and Training.

Each booklet is in two parts. The first part comprises a description of the subject matter in a manner which is intended to be clear to any interested layperson. The second part gives an annotated list of publications for those who want to read further.

Other titles in the series include: *Getting to grips with competency-based training and assessment*, *Getting to grips with skills audits*, *Getting to grips with industry restructuring*, *Getting to grips with key technologies*, *Getting to grips with on-the-job training*, *Getting to grips with on-the-job competencies*, and *Getting to grips with quality*.

The Series Editor is Dr. William Hall, Executive Director, National Centre for Vocational Education Research Ltd. The Series Designer is Bain Middleton. Photographs were provided by CALS Media Unit, Adelaide College of TAFE, and ACTITAFE.

ABOUT THIS BOOKLET

This booklet has been written by Dr Roger Harris who is a senior lecturer in the Centre for Human Resource Studies at the University of South Australia. Much help was provided by colleagues at the University of SA, especially Geoff Barnes and Brian Haines, and by Bill Hall, Peter Thomson, Hugh Guthrie and John Foyster at the National Centre for Vocational Education Research.

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INTRODUCTION

Competency-based training (CBT) is a relatively new concept. But the term has now become firmly established in the minds of most leaders in education and industry. The CBT approach is being adopted more and more.

Implementing CBT is not easy but the results of a well implemented program are worthwhile. If you've decided to make the change, you'll need to know how.

This booklet is written for the general reader to get to grips with implementing CBT. It is for those of us who are wondering what implications CBT has for us and our organisations. It is also written in the belief that the competency-based approach has considerable potential for improving what we do.

I'm sure that many creative ways of doing CBT are still to be found. Implementation is individual.

> Throughout the booklet you will see boxes like this. These boxes contain examples, illustrative material or definitions which help to amplify the main text.

For consistency, the person responsible for implementing CBT is called in this booklet the 'trainer', and training programs and courses are referred to generally as 'programs'.

PLANNING : GET READY ...

ARE YOU READY?

Before implementing CBT, you may need to know more about it.

1 What is CBT?

How well do you understand the context of the 'training reform agenda' and the role of CBT in it? Can you describe national training and competency standards and systems? Can you explain CBT's key characteristics, advantages and limitations, and potential alternatives?

2 Can you develop a CBT program?

How well equipped are you to prepare others for CBT, design a program, develop learning materials and resources, organise facilities, develop procedures for managing CBT and foster partnerships between education and industry?

3 Are you willing to take risks?

How enthusiastic are you about CBT, and its innovative program? Are you excited by the challenge of CBT? How open-minded are you about pushing ahead into the relative unknown?

Think about these questions. Analyse your knowledge, skills and attitudes about CBT. Are you ready? The last section of this booklet includes background reading material if you need to know more.

For the purposes of this booklet, the description of CBT by the Confederation of Australian Industry is taken as an easy to understand definition.

Competency-based training

is a way of approaching vocational training that places primary emphasis on what a person can actually do in the workplace as a result of the training (the outcome), and as such represents a shift away from an emphasis on the processes involved in training (the inputs). It is concerned with training to industry-specific standards rather than with an individual's achievement relative to others in a group.

WHAT WILL WORK FOR YOU?

Around the country, trainers are implementing CBT. They had to decide what features to build into their CBT program. So do you.

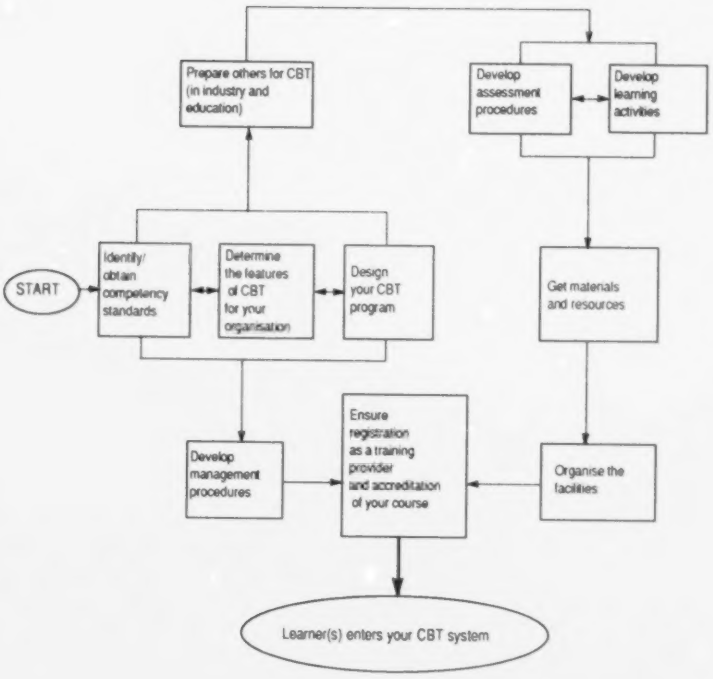
Before you start, think about:

1. Who will be the learners? How will they influence your program design?
2. What does 'competence' mean for your workplace?
3. How will prior learning be recognised?
4. How will on- and off-the-job learning and assessment be linked?
5. When will learners be able to enter and exit your CBT program?
6. Will the learning processes be individualised?
7. Will the program be group-paced or self-paced?
8. What will the learning materials look like?
9. Where and how will assessment be carried out?
10. What type of record-keeping will be used?
11. What organisational policies need to be changed?
12. Who will have responsibility for designing your CBT program?
13. How will final policy decisions on CBT be made?
14. How will your CBT be monitored?

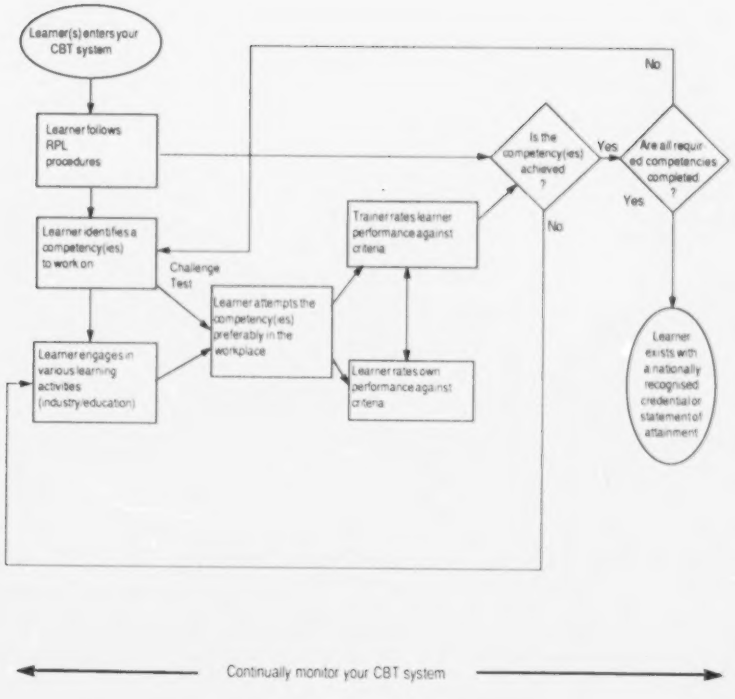
Might I suggest: Visit a working CBT program. (The National Centre for Vocational Education Research, your State TAFE Department or a local Industry Training Board can help.) Seeing is the best way of coming to grips with how CBT works. Chat with the trainers and learners. What could work in your program?

The following two diagrams represent a way of implementing CBT. They sketch the 'big picture' and look at the many phases and their interdependence. The first shows a way of planning and developing a CBT program. The other illustrates what happens when learners enter the program - these phases are discussed later in the Go! section of this booklet. Read on for all to be explained.

Planning and developing CBT (Get ready..., Get set...)


Prepare others for CBT (in industry and education)
Develop assessment procedures
Develop learning activities
START
Identify/ obtain competency standards
Determine the features of CBT for your organisation
Design your CBT program
Get materials and resources
Develop management procedures
Ensure registration as a training provider and accreditation of your course
Organise the facilities
Learner(s) enters your CBT system
Continually monitor your CBT planning and development

Learning in a CBT program (...Go!)


Learner(s) enters your CBT system
Learner follows RPL procedures
Learner identifies a competency(ies) to work on
Challenge Test
Learner engages in various learning activities (industry/education)
Learner attempts the competency(ies) preferably in the workplace
Trainer rates learner performance against criteria
Learner rates own performance against criteria
Is the competency(ies) achieved ?
Yes
No
Are all required competencies completed ?
Yes
No
Learner exists with a nationally recognised credential or statement of attainment
Continually monitor your CBT system

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DEVELOPING : GET SET ...

PREPARE OTHERS FOR CBT

Are you thinking, 'We've been doing CBT for 25 years!', 'I know all this already' or, 'It's too costly', 'It sounds like too much work', 'It may work there but it won't work here'? People have different objections. But, **CBT is a different way of organising learning.**

Various individuals and groups need to know what is going on. You'll need their support to ensure an effective program. What you say, and how you say it, will vary according to your audience.

CBT depends on the trainer

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Trainers are the single most important factor in the success of CBT. Their support and commitment are essential.

Trainers and CBT

From the Carmichael Report (see Further reading):

> *Training of teachers and trainers is probably of pivotal importance to the successful reform of Australia's vocational education and training system. There is an urgent need to train on- and off-the-job trainers in delivery and assessment of training in CBT mode ... There is general lack of understanding of the training reform agenda ... a significant obstacle to successful implementation.*

Bryan Jones, Manager of Training and Development at **Email**, says:

> *The first thing ... was to develop a train the trainer program, because without the ability of our supervisors to implement this program, it wouldn't get anywhere at all. So that was the most important thing we did in ... the whole program ...It was certainly for the training staff a major change in attitude because we were taking them out of their comfort zone of doing it the way we've done it forever ...*

Managers, **administrators** and **union officials** in both industry and education need to know. Be very clear about how to sell the potential benefits of CBT to them. The further reading section will provide information for doing this.

Sue Stafford, Training Manager at **Containers Packaging**, reflects on her biggest challenge in implementing CBT:

> *It's about getting commitment from senior managers to have access to people, ... realising that production will be disturbed, ... having lots of strategies up your sleeve, ... realising that people will resist ... As a manager, it's important not to give in ... to persevere through the difficulties, to keep a positive point of view and find flexible and practical ways to release people off production lines for training...*

Her advice to those starting out on the process is to:

> *Plan carefully. Look at the scope of your project and set yourself realistic timelines. But make milestones and celebrate them, and publicise them, and involve as many people as you can in knowing about them and owning them.*

Leanne McDonald, Competency Coordinator for **Westpac Bank**, says:

> *Communication is a critical issue in implementation, especially in this climate, because anything new ... is often labelled with ... sinister intent ... to reduce numbers or ... weed out the poor performers or those who don't fit the mould ... So really it's trying to demystify the whole process and make it simple, ... easy to understand and comfortable and safe for those who are going to use it.*

Learners must be prepared to accept responsibility for their own learning. They need to know the advantages in CBT for them. Describe the important features of their program and show lots of examples so they know what lies ahead and will want to push on.

DESIGN YOUR CBT PROGRAM

Identify and obtain competency standards

CBT programs begin with **competency standards**. They are a fundamental difference between traditional and CBT programs. Traditional programs tend to focus on content, be time-based and provider-led; CBT programs are developed from competency standards that focus on outcomes. Standards are derived by Competency Standards Bodies, groups from industry officially recognised by the National Training Board (NTB).

Competency standards, then, form the basis for all that follows. We won't go into competency standards and how they are developed. Just recognise that these competency standards define what is required for effective performance in employment. They are expressed in the following form.

Part of a competency standard: Workplace Trainer, Category 2

Unit of competency:
- Deliver and evaluate training

Element of competency:
- Deliver training/learning opportunities

Performance criteria:
- The training objectives are explained carefully to all trainees.
- How competencies are to be learnt and assessed is explained clearly to all trainees.
- The presentation and training methods are appropriate to the trainees' background and aptitudes and for the competencies to be developed.
- Training equipment and materials are used correctly and efficiently.
- Advice and feedback are provided to facilitate group and individual learning.
- Within the parameters of the training plan, suitable opportunities and resources are provided for groups and individuals to manage their own learning.

Range statements [abbreviated, headings only]:
- Training structure
- Training group size
- Training methodology
- Subject matter
- Trainee population
- Policy impact
- Training environment

A first step, therefore, is to identify the competency standards for your program. So far, only a few occupations have officially endorsed competency standards but the number is increasing. They should cover 90% of the workforce and the bulk of occupations by 1995. The two newsletters, *NTB Network* (NTB) and *Competency Update* (National Office for Overseas Skills Recognition), publish the latest developments. If you want to know the Competency Standards Body for any occupation, check the list of names and addresses in the back of the *User's guide to course*

design for competency-based curriculum from the Australian Committee for Training Curriculum (ACTRAC), or contact the NTB.

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Change competency standards into learning outcomes

Competency standards state what the worker must be able to do in the workplace. From them, the trainer develops **learning outcomes**, which describe what the learner must be able to do to meet the requirements of a program. Competency standards are occupational; learning outcomes are instructional.

The ACTRAC guidelines give the procedures and format for writing learning outcomes.

Often several learning outcomes can be clustered into modules or units of work, to minimise repetition and promote efficient learning. Careful sequencing of learning outcomes helps to build competence gradually, promoting effective learning.

Determine where training and assessment will be carried out

Which training partner can best provide the training and assessment of each learning outcome? The locations for each learning outcome can be negotiated between education and industry.

The industry partner will be the obvious choice for learning and assessment which involves operating large, expensive equipment. For developing communication competencies or learning background knowledge, off-the-job training

providers will probably be more cost effective and less disrupted.

Partnerships in CBT

The 'workplace classroom' concept is a **QANTAS Airways** and **Regency College of TAFE**/SA joint venture. **Derrick Casey**, Project Manager, says:

> *The objective is to return the ownership of training back to the workforce where most of it is done ... TAFE and the higher education sector ... change their roles ... Certificates (or diplomas, degrees) will be awarded through ... a combined system of on- and off-the-job training with the final assessment responsibility resting with industry.*

ICI Botany established a **NSW TAFE** Annex as an on-site training facility. **Ralph Dutneall**, ICI Manager of Technology Support, explains:

> *It seems so simple looking back ... but at the time it required a concerted effort by some dedicated people to build up the ... Annex. The benefits were immediate: the new students did particularly well. The set-up suited adult students ... In a sense, we have returned to the traditional concept of apprentice training ... learning on-the-job, using the skills of the tradespeople as the source of knowledge.*

Both these projects are trying to develop an interactive learning culture in which learning is as much a part of the work day as working.

Develop assessment procedures

Once the learning outcomes have been clearly stated, you can begin to develop assessment procedures and instruments.

Peter Thomson, the Deputy Director of the **National Centre for Vocational Education Research**, says

> *...assessment must not be overlooked. The whole system of competency-based training is ... dependent upon the quality of the assessment procedures used to judge competence. If assessment methods are less than satisfactory, then the whole competency standards framework will collapse.*

Determine which methods are most suitable and most practical for assessing the given outcomes. Common methods include:

- observation in the workplace;
- simulated work, e.g. computer simulations and role-playing;
- practical exercises, projects;
- oral and written assessments;
- portfolios.

A checklist is often useful for assessing practical work.

The real workplace for assessment

Part of a Checklist

Performance Assessment Form: Develop a Checklist

Learner's name:_____ Date:_____

Trainer's name:_____

Directions: Indicate whether the criterion has been met by placing an X in the appropriate column. If, because of special circumstances, a criterion was not applicable, place an X in the N/A column.

	Learner judgement:			Trainer assessment:		
	N/A	Not achieved	Achieved	N/A	Not achieved	Achieved
1 A clearly descriptive title is provided						
2 Space is provided for the assessor to:						
a) record the learner's name						
b) record the date						
c) make written comments about the learner's performance						
3 Directions are provided that clearly explain how the checklist is to be used						
4 The criteria:						
a) are derived from learning outcomes to be achieved						
b) include all essential criteria (process, product, time, safety) or all essential process steps						
c) include only essential criteria						
d) are stated in observable performance terms						
e) are clearly stated, easily interpreted by all users						
f) are arranged in a logical sequence						
5 The overall checklist is reasonable in length						

Trainer's comments:

Assess background knowledge by written or oral tests. You can store them in a test bank on computer, then you can record and print each learner's attempts. The *Q Instruction Program*, a product of Royston-Software in Adelaide, uses a multiple choice format. *Tutor* has the advantage of being able to integrate directly with a computer management package called *Manager* produced by Logistics Software in Melbourne.

Try an integrated approach to competency assessment. Approach competence as the ability to draw on and integrate a variety of knowledge, skills and attitudes to use in the workplace. The tasks are assessed, as are the abilities to:

- to handle a number of tasks;
- deal with variability;
- coordinate and organise work;
- deal with contingencies, e.g. delays, breakdowns and tight schedules;
- interact with groups and individuals;
- follow occupational, health and safety requirements;
- communicate effectively.

Assess whole competence, not just a series of competencies in isolation from each other.

Many CBT programs are attempting to get to grips with so-called generic or key competencies. The Finn and Mayer committees have suggested national key competencies and these will continue to influence post-compulsory training and education. Here are two examples.

Tea Tree Gully College of TAFE in SA has developed a set of broad-based and transferable skills valuable to employers. These seven 'enterprise skills' can be integrated into all programs:

- accessing and using information
- adapting to and managing change
- communicating in oral and written form
- managing time
- using learning strategies
- solving problems
- working as part of a team

There are four levels for each enterprise skill, and each of these has to be demonstrated at least three times in the course of their program. It is the learner's responsibility to draw the attention of trainers to examples of their enterprise skills development. Learners can ask for a statement of their completed skills, as well as their academic record, at the end of any module. They receive a Statement of Recognition on all their enterprise skills at the end of the program.

The **National Office Skills Formation Advisory Body** in Victoria has developed a set of five 'generic skills': numbers, literacy, communication, working with people and problem-solving. There are three levels of skill within each area. The broad descriptions of the levels are:

- Level 1: undertakes routine tasks within established procedures and is subject to frequent progress checks by supervisor.
- Level 2: undertakes broader and more complex tasks with increasing personal autonomy for own work; work checked by supervisor on completion.
- Level 3: undertakes complex and non-routine activities, is self-directed and responsible for the work of others.

Learners do better if they have time to reflect and self-assess. Use self-checks of knowledge and encourage peer review. Build in a 'learner judgement' column next to the 'trainer assessment' column on all checklists. Learners can then make their own judgements on the standard of their work before assessment.

Design the assessment system with the principles established by the Vocational Education, Employment and Training Advisory Committee in mind. Registering authorities under the National Framework will ensure that providers comply with them. The Vocational Education, Training and Employment Commission in Brisbane has published helpful case studies on assessment practices and a list of assessment guidelines.

Learn to make your own assessment

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Develop learning activities

The learner must achieve the required competencies to the required standards. But the choice of learning paths is wide open. It is like saying that the important thing is to get to Brisbane from Melbourne, but how one gets there does not matter. With CBT, many training methods are possible.

> The **National Office for Overseas Skills Recognition** says that:
>
> *Entry-level Competency Standards specify what new graduates should be able to do in the workplace, but say nothing about how that state is to be achieved. ... However, ... there is more than one way to teach effectively... In addition to maintaining existing flexibility in educational approaches, the advent of national Standards is likely to enhance educational flexibility.*

Plan to develop flexible learning modes. CBT offers the opportunity to move away from traditional, and often rigid, teaching. Flexible learning is very popular now. It frees up training programs to meet the varied requirements of individuals for what, where, when and how they learn.

Distance learning can be a part of this approach. New media and techniques, teleconferencing, interactive video, television and personal computers with modems, help stretch training beyond classroom and workshop walls.

Flexible learning is the key

The potential of CBT may be maximised when learning activities are individualised and self-paced. The Employment and Skills Formation Council (ESFC) claims that:

> *CBT is not necessarily modular or self-paced, but these approaches to curricula and delivery are very compatible with CBT.*

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Richmond College in Victoria and **Croydon Park College** in SA have used self-paced approaches to CBT in the motor vehicle trades for over 10 years. Competencies are clearly stated and learning materials in a variety of formats are available for each competency. Learners work at their own pace.

The trainer acts as a learning manager. Training is mostly one-to-one so trainers can assist with individual learning difficulties. At the end of each unit, the learner is assessed by computer tests and on practical work to determine whether they have achieved the required standard. Many learners complete their off-the-job training before the nominal time. The program can then be 'topped up' with a new entrant whenever a vacancy occurs.

A CBT program that allows self-pacing needs to develop appropriate learning materials and resources.

GET MATERIALS AND RESOURCES

An effective CBT program involves more than competency standards and program design plans. It needs a delivery system that helps learners to achieve those standards.

Learners learn:

- at different rates
- with different learning styles
- from different sources

Learners progress by demonstrating competence so they need materials and resources that allow for these differences. Materials and resources may be designed to

allow for open entry and open exit, and help us recognise prior learning.

What are these materials like? Many CBT programs use learning materials which serve as 'road maps' for learners: learning guides and learning packages. Both contain:

- element statements and learning outcomes,
- learning activity directions,
- an explanation of how performance will be assessed,
- criteria against which performance will be measured.

The **guide** refers the learner to other sources (e.g. texts, workbooks, media instruction sheets, self-checks, answer sheets and checklists) and guides the use of a variety of other materials. The **package** is self-contained and incorporates all content and directions the learner requires to achieve competency.

Learners can learn from:

- visual stimuli;
- reading with personal time for reflection and consolidation;
- group discussions;
- trainer inputs;
- demonstrations and modelling;
- experiential activities;
- practical 'hands-on'.

Learning materials may be:

- self-learning packages;
- reference books;
- programmed print materials;
- films, audio and videotapes, film strips, slide-tapes;
- computer software.

A variety of resources enriches learning activities, accommodates different learning styles, and provides alternative paths to competency achievement. Learners can study, review and practise when and as often as they need to.

ORGANISE THE FACILITIES

Traditional classrooms and workshops are not usually flexible enough for CBT. Facilities need to:

- accommodate individual or group activity, quiet study, multi-media presentations, hands-on practice and assessing areas;

- provide convenient access to all equipment, tools, supplies and educational resources the learner will require;

- foster a safe, comfortable working environment for learners and trainers alike.

What kind of learning resource centre suits your program and where is it best located? Depending on the degree of

individualisation in the program, the learner requires convenient access to study tables, reference materials, media and computer terminals, and needs ready access to the trainer for guidance.

Store the learning materials carefully in manageable order and in good condition; and so they are readily available to both trainer and learner. Most sites use some combination of filing cabinets and cupboards.

The choice of learning paths is open

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Testing areas are important. CBT assessment procedures are likely to be more structured, complex and time-consuming than those in conventional programs. Organise facilities to make assessment as convenient as possible, for example, set aside special areas, either in the educational or the industrial setting (or both), that:

- make available all the appropriate equipment and materials in as realistic a work setting as possible;
- are semi-private to minimise distraction during testing and allow frank and open discussions of the learner's performance.

DEVELOP MANAGEMENT PROCEDURES

What management procedures will you need as you develop your CBT program? Administrative procedures already in place for managing traditional programs may have to change.

Access

Open entry - open exit is not essential to CBT. However, the potential of CBT is maximised if a program can accept entry of learners at almost any time and 'graduate' them as soon as they have attained competence.

Open entry - open exit allows

- individuals to learn and progress at their own best rates
- cost-effectiveness, by maintaining learner places full at all times
- individuals to undertake only competencies relevant to their needs
- efficient use of facilities
- graduates, not already in the workforce, to seek jobs throughout the year and not just in one flood when a training year finishes
- time-free not time-bound training which is competence-based not content-focused

Open entry - open exit is not easy. If learners can start at any time, the program needs: continuous admission procedures and learner orientation activities; careful records to determine and access accurate enrolment figures; ways to monitor learners' progress so that efficient access to and use of facilities can be planned, exit points of learners from the program can be predicted and new places filled without too much delay.

Learner progress

A principle of CBT is that learners should be allowed the time they need to learn. However, learners cannot be allowed unlimited time. It does not make sense to have training places filled for too long with people who don't want or don't have the ability to learn. Other potential learners are disadvantaged.

A clearly stated policy on the progress expected of learners may help. For it, determine an average (nominal) time to

complete each competency and a nominal time to complete the program.

How will you follow learners' progress? For instance, will records be maintained on paper or by computer? Who will do the recording? When will it be done? CBT depends on the accuracy and reliability of its management information system, so procedures need to be as streamlined as possible. A number of CBT programs use *Manager* to handle learner progress.

At Adelaide College of TAFE, a bar coding system enters learner results in the *Manager* datafile. Lothar Silwedel, a lecturer in Hairdressing, introduced this system and estimates that it can save up to 75% of the time taken for data entry by keyboard.

Bar coding makes data inputting easy

A sample *Manager* record print-out

TAFE Metal & Engineering Fabrication
Structural Steel Fabrication

17-06-1992

Group: 13

Apprentice Number:

Student Number: 910925
Commenced Course: 04-03-91
Total Attendance: 51.75 day(s
Actual Attendance this Year: 14.75 day(s
Absence this Year: .25 day(s)
Total Absence: 1.25 day(s)

[NAME OF LEARNER
ADDRESS OF LEARNER]

Progress: 1.3 days ahead

SUBJECT - MODULE - UNIT Completed		RESULT
NB801	Communication & Indust. Rel.	NA
NB802	OH&S	P
NB803	Material Handling	P
NB804	Computing in Engin.	NA
NB805	Quality Concepts	NA
NB806	Machining	NA
NB808	Electrical Fundermentals	NA
NB809	Welding and Thermal Cutting	P
NB810	Fabricaqtion Techniques 1	P
NB812	Engineering Drawing	P
NF01	MMAW 1 Manual Metal Arc Welding 1	P
NF02	GMAW 1 Gas Metal Arc Welding 1	P
NF03	GTAW 1 Gas Tungsten Arc Welding 1	P
NF04	FGW Flame Gas Welding 1(OAW)	P
NF15	Materials Science	NA
NF19	Fabrication Techniques 2	NA
NF20	Geometric Development	P
NF21	Computer Applications 1	NA
NF43	Fabrication Skills - Light 1	P
NF44	Fabrication Skills - Light 2	NA
NF45	Triangulation Development	P

LEGEND: P=Passed, NA=Not Attempted, NC=Not Completed
PP=Proficiency Pass

Employer Phone:

[NAME OF EMPLOYER
ADDRESS OF EMPLOYER]

Block dates ALREADY ATTENDED:
2-MAR to 6-MAR 6-APR to 10-APR 18-MAY to 22-MAY

Block Dates TO ATTEND:
22-JUN to 26-JUN 3-AUG to 7-AUG 7-SEP to 11-SEP 12-OCT to 16-OCT
16-NOV to 20-NOV

Staffing

If there is more than one trainer, you will need to decide on division of duties and loads. CBT encourages staff to work closely together in **teams**.

Trainers will have role preferences. Some may like to train mainly in workshops, others in resource centres. Some may develop materials as writers or as media specialists, others will be happy to liaise with industries and educational institutions or gather resources for learners in their own program. Some will design and develop, some teach and some administrate. In a large program, there will be room to manoeuvre, for staff to specialise or to move around in a number of roles for variety. In a small program, of course, the trainer will need to play all of these roles.

CBT provides considerable opportunity for a variety of roles. That can be both stimulating and challenging, frustrating and threatening. I helped to develop and implement a CBT program in South Australia from 1983. The TAFE staff involved exhibited this range of reaction, particularly to the novelty of the role and the frustrations it caused. Effective staff development is crucial before implementing CBT in any organisation.

Records of achievement

Nationally consistent, cost-effective arrangements for certification and records of individual attainment of

competencies against standards endorsed by the NTB are necessary.

Traditional transcripts don't usually provide much information beyond course, subject and general grades. What does 'Communication 1' or 'Building 2' tell anyone about the specific abilities of a learner? In a CBT program, a transcript should detail every unit of competency required for the program and the learner's achievement on each one. You will need to develop such a transcript.

Learners take their transcript on leaving a program, whether completed or not. The document is informative and useful for:

- resuming the same program at some future date;
- entering a similar program, say, in another State;
- seeking credit in a different program;
- a career development tool within their own workplace.

Integrating on- and off-the-job learning

The national Strategic Framework for the Implementation of a Competency- Based Training System recognises the need for:

> *administrative mechanisms to integrate training in the workplace and off-the-job. Such mechanisms relate to the development of competence schedules, the allocation of training responsibilities between the workplace and off-the-job providers and the use of contracts of training...*

Contracts of training between the employer and an employee specify the rights and obligations of each party and identify the competencies to be acquired by the training arrangements. They need administrative procedures to link clearly the on- and off-the-job training components.

Use of materials

Learners may need materials on a daily basis, so try to anticipate the needs of all learners. The system needs to allow easy access to materials by learners and also be easily monitored. Plan the procedures well before learners enter the program.

RPL

Recognition for prior learning (RPL) underpins competency-based training. As CBT focuses on outcomes, it is not important **where** skills have been acquired. If people can demonstrate a skill then they should not undergo training but have that prior learning recognised.

Develop procedures for RPL. Staff need to be specially trained and given programmed time to make judgements on RPL. They need specified guidelines, established processes and clear criteria to be fair.

Learners may have to undergo 'challenge testing' and demonstrate competency. Trainers may have to make professional judgements on submitted documentation, such as portfolios, evidence of certain kinds of work and life

experience, and competency records from previous training.

The process is like a selection interview. The employing panel decides if an applicant is suitable based on their life and work experiences as presented via written documentation and interview.

The five principles of the national approach to RPL

- **competence** (focus on competencies, not the how, when or where of learning)
- **commitment** (trainers must have a demonstrable commitment to RPL)
- **access** (available to all potential applicants)
- **fairness** (involve processes that are fair to all parties)
- **support** (involve provision of adequate support to potential applicants)

RPL in action

Broadmeadows College of TAFE, **Gordon Technical College** and the **Ford Motor Company** have an RPL model of three phases - request, assessment and review. It was used to assess a group of Ford employees and recommended the extent of advanced standing they would receive into TAFE accredited courses.

In the Technology Management program at **Deakin University** (Burwood Campus), learners can progress from a certificate to a B. App. Sc. through a combination of RPL and computer managed learning. The degree program is divided into several learning outcomes which some learners already possess and for which they are given credit. The process relies on interviews, relevant documentation, and supervisor and other referee reports.

Provider registration

You can implement CBT without registering as a provider or using courses accredited under the National Framework for the Recognition of Training (NFROT) which came into effect on 1 August 1992. But it is to an organisation's advantage to be registered. Registration is formal recognition by a State/Territory Authority that a provider is competent to offer a specific accredited course or recognised training program. It is based on six principles.

The six national principles for registration

1. Providers of recognised training shall be registered
2. Appropriate staff (who meet minimum competency standards in the area of training to be provided and in delivery, including assessment)
3. An adequate and safe environment
4. Responsible and ethical relationships (with learners)
5. Financial safeguards (that learners will not be financially exploited)
6. Quality control (registration for a fixed term not exceeding five years; periodic review by training authorities; notification of changes in circumstances; adoption of an acceptable code of practice)

It will enable the provider to issue credentials or statements of attainment and to use the nationally recognised training logo. The State/Territory Authorities are required to provide details of registered providers and accredited courses to the

NTB. This body then maintains a national register which can be accessed by all Recognition Authorities.

Course recognition

Your course must be accredited or your training program formally recognised for credit transfer. Such formal recognition is again the responsibility of the States and Territories.

In the National Framework for the Recognition of Training, an **accredited course** is a sequence of training which leads to a credential (recognised certification). A **training program,** however, is a sequence of training which contains only a component(s) of an accredited course. Courses, therefore, become recognised through accreditation; programs become recognised through credit transfer agreements. All courses submitted for accreditation must take account of ten nationally agreed principles.

The ten national principles for accreditation of courses

1. Identified industry training need/market need
2. Course standards appropriate to the level of credential proposed and consistent with accepted national guidelines
3. Competency-based training (identify course outcomes as competencies)
4. Multiple entry and exit (provide for RPL and multiple entry and exit points)
5. Flexible learning (indicate alternate delivery modes, as appropriate; where competency standards require both on and off-the-job delivery, accreditation must consider both modes)
6. Articulation (provide information on the relationship of the course to other courses, and identify credit transfer arrangements)
7. Customisation of courses (provide for customisation to meet particular needs of clients yet preserve the integrity of the course)
8. Promote access and participation (not limit access on the basis of age, gender, social or educational background)
9. Appropriate assessment (include assessment methods and demonstrate their appropriateness to the course)
10. Ongoing monitoring and evaluation (identify monitoring and evaluation processes to be used)

When

- a provider has demonstrated that it satisfies the principles for registration,
- a course satisfies the principles for accreditation,

then they are entered into the State Register, as well as the National Register of approved providers and accredited courses maintained by the NTB.

Accreditation is for up to five years and registration of the provider(s) of that course is linked to that accreditation period.

Team work is important

Before delivering CBT, it is vitally important that you have clear administrative procedures in place. The VEETAC booklet, *Administration of Competency-Based Training*, observes:

> *...to be effective, CBT needs to be rigorous and to encourage close cooperation between industry and registered training providers, but in order to be*

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accepted and applied within industry, its administration must be 'user-friendly' and not over-bureaucratised.

Advice to be heeded for an effective and acceptable program.

One last point. Implement CBT only after talking with and involving all the people who have a vested interest. The Confederation of Australian Industry advises that:

all sectors of the Training System have critical and complementary roles to play in the introduction of CBT. None of the groups of tasks identified can be effective in isolation...

DOING : GO!

ASSIST LEARNING

So you are now ready to begin operating CBT! The program has been designed, trainers prepared, learning materials and facilities organised, and management procedures in place.

Assisting learning in CBT may not differ greatly from good delivery practices in other types of program. Use of these practices will enhance the delivery of CBT.

First, orient the learners. Time spent wisely in orienting learners to the nature and processes of the CBT program will save trainer time later. Actively involve your learners and employ a variety of methods such as explanation, worksheets, group discussion, media presentations, actual materials and a tour of the facilities.

In delivering CBT, the trainer plays a number of important roles. These are described on the next page, with examples of activities.

Roles and activities of the CBT trainer:

(1) **liaison person:** establishing and maintaining close relationships between the people involved from industry and education.

(2) **advisor**: orienting learners to the CBT program; diagnosing needs and learning styles; counselling on program activities and sequencing; helping learners develop motivation and self-responsibility.

(3) **mentor**: helping learners develop individual and group learning plans; prompting critical thinking and problem-solving abilities; promoting reflection-on-practice; encouraging and motivating individual learners.

(4) **facilitator:** managing the different resources when required by learners; deciding the best times for small and large group activities, and facilitating these; scheduling the use of facilities and time.

(5) **information dispenser/skills demonstrator**: giving information beyond the learning materials; clarifying content; providing skills demonstrations.

(6) **assessor**: making decisions on RPL; using the most appropriate means of assessment for each learning outcome and having the instruments ready; assessing individual performance against criteria; analysing in discussion with each learner the results of assessment; providing positive and critical feedback to each learner; recording assessment results.

(7) **materials' developer**: adapting or developing learning resources; revising materials to update them or ensure they meet the criteria and consistent format of your organisation; writing staff development materials.

(8) **program evaluator**: keeping a 'weather-eye' on the total CBT program to ensure that it is working smoothly; maintaining a safe, ordered and flexible learning environment; regularly providing program data to management.

Don't neglect the **interpersonal dimension**. In the early stages of implementing CBT programs, trainers expect learning materials to perform miracles. It is a very real trap. So often trainers leave learners working on materials and neglect their own role as a resource.

CBT should not be mechanistic and dehumanising. If trainers have a thorough understanding of **adult learning principles**, they can make a CBT program personal and human. In CBT, the learner-centred approach can allow the trainer to spend more time with individual learners when they most need help.

Some adult learning principles:

- gradually lessen the learner's dependence on the trainer
- allow for individual pace and level of learning
- provide a secure and comfortable learning environment
- select material relevant to the learner
- make material meaningful to the learner
- enable individuals to use previous learning/experience
- keep learners actively involved
- encourage learners to self-evaluate
- provide for practice with reinforcement of correct behaviour
- make use of group influences on learning
- foster learner decision-making
- promote problem-posing and problem-solving approaches
- build relationships marked by mutual trust, acceptance and respect

If your program is to remain fairly traditional, then the methods will remain largely trainer-centred. If you encourage individualising and self-pacing, the emphasis will

be learner-centred and the trainer becomes one resource among many.

The bottom line is: how much **power** is the trainer prepared to relinquish to the learner?

Whether we like it or not, learners learn at different rates and by different styles. They also have varied needs, interests, motivations, abilities and previously learned skills.

Diverse activities can accommodate these differences. If much can be learnt from a variety of physical resources, then the trainer is free for other roles. Learners who learn best from peers, audio, visual, computerised software and print will use these resources to learn more effectively.

Some learners take longer to reflect on concepts than others, or want to re-play several times (on tape) something they found particularly difficult. The program can accommodate this diversity to its learners' advantage.

That is not to say, however, that a CBT program should be individualised all of the time. The trainer has to be able to anticipate when individual effort, group learning or trainer-focused activity is the most appropriate.

Group activities

- hear guest speakers
- cover something that is most efficiently done in that way
- conduct group problem-solving, simulation or roleplay
- model a skill
- practise skills that can only be done in a group environment, e.g. communication, negotiation and conflict resolution skills
- facilitate a group discussion or brainstorm
- encourage learners to share the competencies they plan to develop and work on in small teams
- go on a group field visit, say, to a local industry

Understand the **learning styles** of your learners and you will better manage the learning environment. There are many tools for identifying learning styles and you can develop your own. They can be as simple or as complex as you like. Make them quick to administer, easy to interpret and provide helpful information.

With this information, you can cater for the needs of individual learners. Flexibility is the key.

Learning plans or **agreements** are a useful way of managing learning. This involves learners, within the framework of competency standards that have to be met, deciding with the trainer at various stages in the training process:

- what will be learned
- when it will be learned

- how it will be learned
- how to judge whether it has been learned

Using learning agreements can be an empowering model of learning. Learners can increase their ability to take responsibility for and self-direction in their own learning.

The graduate nurse program at **Ashford Community Hospital** in SA uses learning agreements. Nurses negotiate the contracts, complete competencies on-the-job, and preceptor and self-assessments are used in the clinical situation.

Learning with a group can be fun

An example: part of a learning agreement for developing colleagues' awareness of CBT:

Learning outcomes and dates	Strategies and resources to be used	Evidence of achievement	Means for validating evidence
•••			
3 Draw up an action plan (by end of Week 2)	•relevant CBT resources •guidelines on action plans •assistance from mentor •develop draft plan •circulate draft plan for comment	the plan refined on the basis of feedback	Meets criteria: •achievable •sensitive to colleagues' needs •can address unforeseen circumstances •allows for questions Staff Devt. Officer to assess and provide brief written report based on criteria

Learners are responsible for their learning, so **literacy and numeracy abilities** are crucial, particularly if the program is individualised and depends on print materials.

Try to gauge individual abilities in literacy and numeracy early on. If difficulties are detected early, remedial action can be readily incorporated into the CBT program. You may need assistance from a student counsellor. John Saunders, counsellor at **Croydon Park College of TAFE**, uses his own instruments for such a purpose. Many TAFE colleges offer literacy and numeracy courses. They may also train

voluntary literacy tutors to work individually with learners. Programs for those from non-English speaking backgrounds may also be provided.

Create a **learning environment** that promotes high achievement. Take the time to set a healthy learning climate and create high expectations. CBT does not have to promote mediocrity.

Foster thinking skills

- ask thought-provoking questions, emphasise how and why not what
- encourage learners to examine and question assumptions
- foster a sense of curiosity and inquisitiveness
- value creative problem-solving rather than conformity to 'right' answers
- foster reflection on practice
- raise ethical questions about consequences of actions and decisions
- challenge generalisations and assist learners to evaluate alternatives

How do you keep track of competency development on-the-job? **ICI Botany** have been trying 'story book' cards containing details of competencies involved, and indications of the complexity and degree of involvement in each task. The cards are read into a computer, a learning value is assigned to each experience, and the learner accumulates points for each unit of competence. Graphs of progress can be produced for each learner, for a group or for the whole program. Trainers can examine trends, learning gaps or lack of opportunity.

CBT is increasingly **a partnership between education and industry.** Maintain close and continual contact with the other parties to ensure that on- and off-the-job arrangements are coordinated and complementary. For instance, industry can reinforce off-the-job learning with practical on-the-job experience; off-the-job learning experiences can be tailored to be relevant to the on-the-job work of that time.

What happens when learners complete their off-the-job training program at different times? They can return to the workplace and perhaps earn a bonus for completing the program early. Or they could study in an advanced program of mutual benefit to learner and employer.

ASSESS LEARNING

The trainer must be able to assess learning. CBT has a greater emphasis on assessment than conventional training. It is both time-consuming and demanding. Less time is spent on session planning and delivering formal presentations, so the time saved can be productively used on assessment.

Formative assessment throughout a program measures progress and diagnoses learning difficulties. **Summative assessment** is made at the end of each segment of learning. The latter is the formal process for judging whether an individual meets the specified standard. It certifies achievement of competencies so the individual is eligible for further training or employment at an appropriate level.

The emphasis in CBT assessment is on performance more than 'pencil and paper' tests of knowledge. But **knowledge** is important too; it underpins performance. It enables learners to grasp information crucial to the demonstration of competence to the specified standard. Application of knowledge is the prime focus.

Nor are **attitudes** neglected. They are generally addressed either as elements of competence in their own right or, most commonly, included in performance criteria. Assessment of attitudes is the most difficult and challenging type of assessment.

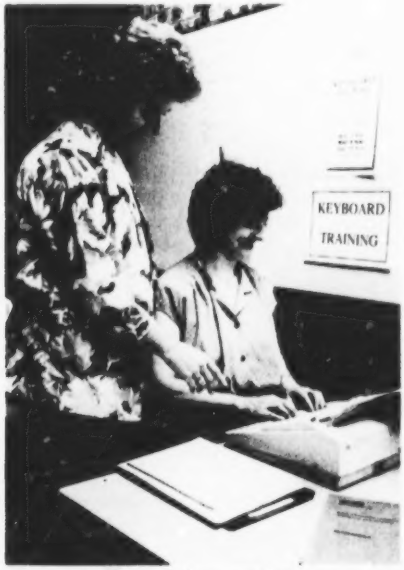
Assessment in CBT, then, is primarily focused on the observed demonstration of competencies in the workplace or a simulated situation. And evidence that a learner possesses the necessary knowledge to underpin the performance is mainly obtained through oral and written tests, in and away from the workplace.

Assessment in CBT is **criterion-referenced**, not referenced to others in a group. Assessment is based on the performance criteria stated in the competency standards. Wherever possible, employ an integrated or holistic approach where a single assessment event is used to assess a number of performance criteria. Use criterion-referencing for judging competence as well as giving frequent and timely feedback to individual learners. Your feedback advises learners on their progress and the competencies to work on next, or what aspects of their performance to improve and how to do it.

The **Employment and Skills Formation Council** summarises criterion-referenced assessment as:

> a move away from a culture of failure in which a minority of each training group are stigmatised as failures, to a training culture in which each and every individual is challenged to aspire to meet or exceed specified standards of performance.

Assessment may involve the trainer in testing individuals on different competencies at different times. Individual assessment is an important part of effectively managing CBT: scheduling the time and resources needed, having at hand the assessment instruments and keeping appropriate records of results.



Practice makes perfect

Self-assessment procedures reduce the amount of direct assistance needed. Don't make your assessing methods too complex and therefore cumbersome and time-consuming; they need to be realistic and practical in cost and time.

Skills in assessing learners vary. You need to be skilled in establishing the climate for assessment and making it a collaborative activity. This helps to minimise the anxiety of the learner and encourages the learner to self-analyse and to receive feedback. Use non-directive questioning wherever possible to help learners themselves analyse their performances. Skills in giving constructive feedback are important and personal counselling skills may be required.

NTB skill types

- performing individual tasks (task skills)
- managing a number of different tasks within the job (task management skills)
- responding to irregularities and breakdowns in routine (contingency management skills)
- dealing with the responsibilities and expectations of the work environment (job/role environment skills)

When you assess learners, keep in mind these various skills. Task skills are easier to identify because they have observable and often quantifiable outcomes. They are often over-emphasised while the other three are overlooked and omitted.

Assessment is only effective when all assessors give fair and consistent interpretations of performance criteria. One of the pitfalls is varying interpretations by different trainers. Learners soon begin to recognise 'hard' and 'soft' assessors and may play them off against one another. The critical point is that to be competent, the person must be able to do the job to the standard of performance required in employment.

Hold regular trainer meetings on this issue to team-build. Debate what evidence is acceptable and what is not, and maximise the reliability of such judgements. Assessments of performance imply a greater role for observation and judgement by the assessors. In this respect, the training of assessors will become increasingly important, as will their registration.

Be well-versed in all aspects of the program because you may need to assess competence at any time. You need to know the whole CBT program and its materials and resources to guide each learner to the next segment after a competent demonstration.

MONITOR YOUR CBT PROGRAM

One last thing. You need to continually monitor the development and functioning of your CBT program.

At a general level, you can tell how competency-based your program is at any stage by comparing its features against published sets of CBT characteristics. This is the way in which the TAFE National Centre for Research and Development surveyed TAFE courses across Australia in its inventory of 1990.

> The State Training Board in Victoria proposed six criteria for judging a program as 'fully competency-based' *(Newsletter*, July 1992). These are centred on **outcomes, curriculum, delivery, assessment, reporting/recording and certification.**
>
> A survey today of so-called CBT programs using this measuring-stick may well find few programs strictly satisfying all criteria - either because few national competency standards have yet been endorsed; or because few programs exhibit a true partnership between on-the-job and off-the-job training; or because there has been little time as yet to develop flexible learning paths to competence.

More specifically, you could evaluate the impact of CBT on learners, trainers and administrative policies and procedures. Or evaluating your CBT materials helps to pinpoint the need for revision.

Ask your learners, trainers, employers, administrators and graduates how effective the program is. They can give you valuable feedback that will help refine your training system. Monitor costs and compare them with costs of previous years. Some studies have evaluated some or all of these dimensions including those on **Croydon Park College of TAFE** in SA in 1985 and 1987 and on the **New Apprentice Training and Assessment System in WA** in 1991.

THE CHALLENGE AHEAD

Remember, you are in the right place to decide how to implement CBT. You know the factors affecting your situation. There is no one right way.

Implementing CBT is a complex task. You will be involved in a lot of hard work and consultation. CBT can take up to three years to install and be free of 'bugs'!

CBT provides a challenge for education and industry

Many attempts to implement CBT around Australia have not been adequately planned and phased in. The result tends to be a hastily thrown together program that only half works and builds resistance from all who participate. Effective CBT is then harder to implement and the lost ground is extremely difficult to regain.

A well planned program may take longer to set up, but your organisation will reap better rewards.

CBT is an evolving phenomenon and there is a lot of exploring yet to be done. We need to maintain an open and flexible mind about CBT and search for workable, alternative approaches that best reconcile the **needs of organisations** and the **needs of individuals**.

There are exciting times ahead as education and industry work together on this challenge.

FURTHER READING

Joint ACTRAC-NFROT-CBT-NTB Working Party on Curriculum Format (1992). ***User's guide to course design for competency-based curriculum.*** Adelaide: VEETAC.

Approved by ACTRAC as meeting the requirements of the National Framework for Recognition of Training (NFROT) for course design in a competency-based system of vocational education and training. It has also been approved by representatives of the VEETAC working parties on Competency-based Training (CBT) and the National Framework for Recognition of Training (NFROT).

The guide is intended for use in national curriculum projects, and can be used as a guide wherever a course or training program is being prepared for recognition under NFROT. The purpose of the guide is to assist people in all sectors of vocational education and training to design a course or training program and have it accredited.

The contents of the guide apply equally to all parts of the vocational education - training sector and private providers whose business is training, as well as enterprises providing training to their own employees and government providers such as TAFE and Skillshare.

Blank, William E. (1982). ***Handbook for developing competency-based training programs.*** Englewood Cliffs, N.J. : Prentice-Hall.

Provides help in developing effective education and training programs. The handbook is aimed primarily at instructors, trainers, curriculum/media specialists, supervisors and others involved in job-related training in business, industry, vocational/technical education agencies and institutions. It describes how to develop programs that:

- are based on clearly stated learner outcomes;
- use carefully developed, mediated and packaged learning materials;
- focus on learning not teaching;
- ensure that learners master each task well before going on to the next;
- are individualised and personalised;
- can be self-paced, open-entry and open-exit;
- and evaluate each learner on his or her performance.

Confederation of Australian Industry (1991). ***CBT: proposals for the Australian vocational education and training system.*** Melbourne: Confederation of Australian Industry.

Describes the new Australian vocational education and training system started in 1992. The two main new elements are: a nationally consistent approach to vocational education and training, and progressive introduction of a competency based approach to training. This booklet outlines the new framework.

Employment and Skills Formation Council (1992). ***Australian Vocational Certificate Training System.*** Canberra: National Board of Employment, Education and Training.

Also known as the *Carmichael Report*, outlines a staged strategy for meeting Australia's training needs in 2001 and describes the practical operation of such a proposed system. It addresses vocational education and training for Australian Standards Framework (ASF) level 1, 2 and 3 (2). The Australian Vocational Certificate Training System should provide flexible delivery arrangements in order to meet by 2001 the training participation and attainment targets of 90 per cent completing year 12, and 90 per cent attaining level 3 certificates, or higher qualifications. These targets are considered to be achievable and necessary.

Foyster, John (1990). ***Getting to grips with competency-based training and assessment.*** Adelaide: TAFE National Centre for Research and Development.

Explores the meaning of competence and explains what is involved in competency-based teaching and learning. The need for assessment and ways of going about it are discussed, as well as the implications of competency-based training for employers, teachers and learners.

Foyster, John (1991). ***Getting to grips with on-the-job competencies.*** Adelaide: TAFE National Centre for Research and Development.

Looks at training and assessment in the workplace. The working environment of a blackjack dealer in a casino is used as an example, in order to explore the meaning of competency-based training and assessment. Ideas about how to improve training and assessment by using the competency-based approach are discussed.

Harris, Roger; Barnes, Geoff; Haines, Brian; Hobart, Barry (1985). ***Competency-based vocational education: an evaluation.*** Adelaide: TAFE National Centre for Research and Development.

Studies the design, implementation and evaluation of the competency-based vocational education (CBVE) program in panelbeating at Croydon Park College of TAFE (SA). The study's purpose was to investigate the potential of such a program as an alternative model of occupational training. Its five objectives were to develop and implement the program, train staff to manage it, evaluate its effectiveness and efficiency, evaluate the competency-based resources and facilities, and analyse the change process impacting upon the College, staff and students.

Harris, Roger; Barnes, Geoff; Haines, Brian; Hobart, Barry; Candy, Philip (1987). ***Competency-based vocational education: a continuing evaluation.*** Adelaide, TAFE National Centre for Research and Development.

Describes the design, implementation and evaluation of a competency-based vocational education (CBVE) program at Croydon Park College of TAFE (SA). The CBVE program is analysed in its second and third year of operation. Where possible, data are presented for the 1983 as well as the 1984 and 1985 student groups so that a comparative perspective may be gained.

Heywood, Lindsay; Gonczi, Andrew; Hager, Paul (1992). ***A guide to development of competency standards for professions.*** Canberra : AGPS.

Relates primarily to the development of national competency standards for individual professions. It is intended to be a more "hands-on" document than the research series papers no. 1 and 2, although those remain relevant in their coverage of the basis of development of competency standards and thus complement the guide.

The guide includes more comprehensive examples of units and elements of competency, performance criteria and range indicators from standards developed in Australia. It gives practical feedback on experience with the development and application of competency standards in the Australian context. Discussion of further issues emanating from work

on the development of standards by professions during 1990 and 1991 is included.

Masters, Geoffrey N., McCurry, Doug (1990). ***Competency-based assessment in the professions.*** **Research paper No. 2.** Canberra: AGPS.

Looks at a range of possible approaches to competency-based assessment in the professions. Wider issues associated with competency-based assessment, and the advantages and disadvantages of various assessment approaches are discussed.

National Training Board (1992). ***National competency standards: policy and guidelines - second edition.*** Canberra: National Training Board.

Sets out the broad policy which the National Training Board will follow in endorsing national competency standards, and provides guidelines to those involved in developing them.

Proceedings of the Conference on Competency-based Training held at the National Centre for Competency Based Training 27-29 November 1991. **(1992).** Ed. by Carey, Cristene. Adelaide : TAFE National Centre for Research and Development.

This conference was organised by the TAFE National Centre for Research and Development in liaison with the National Centre for Competency Based Training. Its aim was to provide a forum for key researchers in the competency-based

domain to meet, network and exchange ideas. Papers include statements of policy, reports of individual project work, and discussions of issues arising from work which challenge current concepts or theories. The conference program was based on several sessions of talks followed by panel discussions and related workshops.

The proceedings contain workshop summaries and papers from the sessions.

Technical and Further Education, Training and Employment Queensland (1991). ***Working for you: information for employers and workplace supervisors.*** Brisbane: TAFE♦TEQ. [Kit] (1 video cassette (12 mins) + 2 booklets + 2 sets notes + 1 pocket card)

Provides information on concepts which underpin competency-based training, and also to offer advice on how to implement a competency-based system of training. It specifically targets training of apprentices, but has wider application, as the competency-based concept is linked with career structures and remuneration outcomes for all employees.

Thomson, Peter; Foyster, John; Toop, Leigh; Turker, Jennifer; Dean, Susan (1990). ***Competency-based training in TAFE: an inventory and report of competency-based approaches in TAFE vocational courses and programs in Australia .*** Adelaide: TAFE National Centre for Research and Development.

The inventory was seen as a means of providing base-line data and the necessary foundation for future policy. This report presents the results of the surveys in each state/territory. It also outlines the methodology used to collect and analyse the data and presents the results of the surveys in each state/territory as follows:

- the extent of current provision of competency-based courses in TAFE;
- the design of CBT programs in Australia;
- standards and conditions applying to competencies;
- delivery of competency-based TAFE programs in Australia;
- assessment;
- reporting;
- preparation of instructors;
- program evaluation;
- teaching facilities.

Thomson, Peter (1992). ***Assessing prior achievement: methods for recognising learning gained through experience.*** Canberra: Dept of Employment, Education and Training. (Discussion paper: National Office of Overseas Skills Recognition).

Defines and discusses the assessment of prior achievement (APA), which is of current interest partly as a result of recent moves toward workplace reform. The paper looks at underlying principles of APA, and its development, outlines a number of methods for assessing prior achievement and the process involved, and looks at cost implications. The author raises some policy questions that remain unanswered at the time of writing.

VEETAC CBT Working Party (1992). ***Framework for the implementation of a competency-based vocational education and training system.*** Canberra: VEETAC CBT Working Party.

Aims to guide the implementation of competency-based training. It is the result of a consultative process which has grown out of the activities of the VEETAC Working Party on the Implementation of Competency Based Training (CBT).

The purpose of the framework is to explain the relationship between CBT and the other elements and initiatives which make up the National Training Reform Agenda - initiatives such as the National Framework for the Recognition of Training. The framework is intended to establish those requirements which have direct relevance to the

implementation of a system of competency-based vocational education and training where national agreement has been achieved. A third purpose of the framework is to describe the character of course development and program delivery in a competency-based system and provide a set of key principles for assessing learner achievement.

Western Australia. Dept. of Employment and Training (1991). ***The Western Australian New Apprenticeship Training and Assessment System (NATAS) : Commonwealth/State Joint Project final report.*** [Perth, W.A.] : W.A. Dept. of Employment and Training.

Covers the activities of an evaluation project on several aspects of the New Apprenticeship Training and Assessment System, from initial development in 1986 to full implementation across the industry in January 1990. The evaluation study has reinforced the view that NATAS is generally supported by industry. Further developments would need to be considered in line with current award restructuring activities. The issue of standards definition is a crucial one and NATAS as a competency-based training system must address this as a matter of urgency. This report was prepared by the Commonwealth/State Joint Project Team (Peter Han and Helen Turner) and incorporates a summary of the evaluation study of the monitoring and validation procedures in NATAS by John Williamson, Ric Lowe and Ian Boyd.

Whiteley, John (1991). ***CBT: assessment models appropriate for competency-based training and their relationship to teaching and learning approaches.*** Brisbane: Research and Development Division, Office of Vocational Education, Training and Employment Commission.

Final report of a national competency-based training pilot project. It reviews the research literature on assessment and CBT, examines the implementation of assessment and CBT within several practical contexts, and identifies some broad guidelines regarding good assessment practices within CBT.